

Stage 2 Determine Acceptable Evidence.

Performance Task (Summary in G.R.A.S.P.S. form): (T)

Goal: To create a 3D house design that represents the use of the Pythagorean Theorem and angle relationships.

Role: You are a carpenter who has been asked to design a house from given dimensions.

Audience: The targeted audience consists of first-time home buyers.

Situation: The challenge involves dealing with measurements and angles correctly to design a house with correct and consistent proportions.

Product/Presentation: You will create a floor plan with dimensions in order to construct a 3D house.

Standards (criteria from both rubrics): Google Sketch-Up: Floor design, organization, concepts, working with others, mathematical errors, 3D house design

Oral Presentation: Content/Purpose, Organization, Delivery

Other Evidence (quizzes, test, prompts, observations, dialogues, work sample, etc.):

Other Evidence (OE)

- Google Sketch-up: Students will create a model to demonstrate how to calculate the 3rd side of a right triangle.
- Geogebra: Students will construct a drawing to illustrate how the Pythagorean Theorem is used to solve problems concerning right triangles.
- I-Movie: Students will create a newscast to show real life applications of the Pythagorean Theorem.
- Garageband and Capzle: Students will create a biography and timeline to analyze the life of Pythagoras and how the theorem was created.
- Blog and Xtranormal: Students will create a blog and form a debate over how the theorem was created and whether Pythagoras should be the only one credited.
- Website: Students will create a website that will show and recognize how and where the Pythagorean Theorem is used in everyday life.

Student Self-Assessment and Reflection

Self-Assessment (SA)

- Verbal Discussion
- Directed paraphrasing, Exit tickets, Jigsaws, Lets compare notes, "Whats still confusing me" discussions, Observations, CFU quizzes
- Teacher will conference with each student daily to chart progress and clarify questions. Students can access peers for additional help.

Assessment Task Blue Print

What understandings/goals will be assessed through this task? (G)

Understanding

•A mathematician named Pythagoras created a theorem that is used in real-world situations to find the 3rd side of a right triangle.

Goal (CCSS)

•**Content Area:** Geometry/Algebra 1
Grade Level: High School
Domain: Similarity, Right Triangles, and Trigonometry
Standard: Define trigonometric ratios and solve problems involving right triangles.
Cluster: #8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.

What criteria are implied in the standard(s) understanding(s) regardless of the task specifics? What qualities must student work demonstrate to signify that standards were met?

Big Idea

•Understand right triangles

Big Idea

•Pythagorean Theorem in real-world situations.

Through what authentic performance task will students demonstrate understandings?

Task Description: (T)

You are a carpenter who was hired by a family to design and build them a house. They want you to create a floor plan and design a 3D image of what the house looks like. You must explain how you created the floor design and reasons behind why you set it up the way you did. The floor design must be very well organized, neat, labeled and proportionate. Once your floor plan is completed, you will design a 3D image of the house on the Google Sketch-Up program. You will present your floor design and 3D house to the class and other teachers for judging. Your targeted audience consists of first-time home buyers, and therefore members of the community (who are first time home buyers) will be invited to come into your school and vote on which house fits the mold of the family the best. Your job is to sell your house design to the buyers. The winning house design will receive school-wide recognition and a cash prize.

What student products/performances will provide evidence of desired understandings?

Type II Product

•3D house design on Google Sketch-Up

Type of Presentation

•Oral presentation

By what criteria will student products/performances be evaluated?

Product Criteria

•Floor design
•Organization
•Concepts

Presentation Criteria

•Content/Purpose
•Organization
•Delivery

- Working with others •
- Mathematical errors •
- 3D house design •

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